

What Is Claimed Is:

1. An antimicrobial composition comprising:
an effective amount of an antimicrobial lipid component comprising a (C8-
C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty
5 acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric
alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxyated
derivative thereof, or combinations thereof, wherein the alkoxyated derivative has less
than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for
polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers
10 comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or
combinations thereof, and the ethers comprise monoethers, diethers, or combinations
thereof;
an effective amount of an enhancer component comprising an alpha-hydroxy
acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-
15 C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl
carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or
combinations thereof;
a surfactant;
a hydrophilic component; and
20 a hydrophobic component which forms the greatest portion of the composition.
2. The composition of claim 1 wherein water is present in less than 10 wt-%.
3. The composition of claim 1 wherein the antimicrobial lipid component is present
25 in an amount of at least 0.1 wt-%.
4. The composition of claim 3 wherein the antimicrobial lipid component comprises
a monoester of a polyhydric alcohol, a monoester of a polyhydric alcohol, or an
alkoxyated derivative thereof, and the antimicrobial lipid component further includes
30 0 to 15 wt-%, based on the total weight of the antimicrobial lipid component, of a di-
or tri-ester, a di- or tri-ether, alkoxyated derivative thereof, or combinations thereof.

5. The composition of claim 1 wherein the total concentration of the enhancer component relative to the total concentration of lipid component is within a range of 10:1 to 1:300, on a weight basis.
- 5 6. The composition of claim 1 wherein the total concentration of the surfactant to the total concentration of antimicrobial lipid component is within a range of 5:1 to 1:100, on a weight basis.
7. The composition of claim 1 wherein the hydrophilic component is present in an
10 amount of 1 wt-% to 40 wt-%.
8. The composition of claim 1 wherein the hydrophobic component is present in an amount of 50 wt-% to 99 wt-%.
- 15 9. The composition of claim 1 wherein the antimicrobial lipid component comprises glycerol monolaurate, glycerol monocaprate, glycerol monocaprylate, propylene glycol monolaurate, propylene glycol monocaprate, propylene glycol monocaprylate, or combinations thereof.
- 20 10. The composition of claim 1 wherein the enhancer component comprises a carboxylic acid.
11. The composition of claim 1 wherein the enhancer component comprises an alpha-hydroxy acid.
- 25 12. The composition of claim 1 wherein the surfactant comprises a sulfonate, a sulfate, a phosphonate, a phosphate, a poloxamer, a cationic surfactant, or mixtures thereof.
- 30 13. The composition of claim 12 wherein the surfactant is selected from the group consisting of a sulfonate, a sulfate, a phosphate, and mixtures thereof.

14. The composition of claim 1 wherein the hydrophilic component comprises a glycol, a lower alcohol ether, a short chain ester, or combinations thereof, wherein the hydrophilic component is soluble in water in an amount of at least 20 wt-% at 23°C.

5 15. The composition of claim 1 wherein the hydrophobic component is an organic compound that is liquid, gelatinous, semisolid, or solid at 23°C and has a solubility in water of less than 5 wt-% at 23°C.

10 16. The composition of claim 1 having at least 4 log reduction in test bacteria in 10 minutes.

17. An antimicrobial composition comprising:

0.01 wt-% to 20 wt-% of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, and combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

0.01 wt-% to 20 wt-% of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof;

0.1 wt-% to 10 wt-% of a surfactant;

1 wt-% to 40 wt-% of a hydrophilic component;

30 50 wt-% to 95 wt-% of a hydrophobic component; and
less than 10 wt-% water.

18. An antimicrobial composition comprising:

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxyated derivative thereof, or combinations thereof, wherein the alkoxyated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)alkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof;

a surfactant; and

a hydrophilic component;

wherein the viscosity of the composition is at least 500 cps.

19. An antimicrobial composition comprising:

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxyated derivative thereof, or combinations thereof, wherein the alkoxyated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-

C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof;

a surfactant;

5 a hydrophilic component;

a hydrophobic component; and

less than 10 wt-% water;

wherein the hydrophilic component forms the greatest portion of the composition by weight.

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20. An antimicrobial composition comprising:

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, and combinations thereof,

15 wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the ethers comprise monoethers, and for sucrose the ethers comprise monoethers, diethers, or combinations thereof;

20 an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof; and

25 a hydrophobic component which forms the greatest portion of the composition by weight.

21. An antimicrobial composition comprising:

30 an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, and combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose,

the ethers comprise monoethers, and for sucrose the ethers comprise monoethers, diethers, or combinations thereof;

an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)alkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof; and

a hydrophilic component which forms the greatest portion of the composition; wherein the viscosity of the composition is at least 500 cps.

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22. A method of preventing and/or treating an affliction caused, or aggravated by, a microbial organism on skin and/or a mucous membrane, the method comprising contacting the skin and/or mucous membrane with the antimicrobial composition of claim 1.

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23. A method of preventing and/or treating an affliction caused, or aggravated by, a microorganism on skin and/or a mucous membrane, the method comprising contacting the skin and/or mucous membrane with the antimicrobial composition of claim 17.

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24. A method of preventing and/or treating an affliction caused, or aggravated by, a microorganism on skin and/or a mucous membrane, the method comprising contacting the skin and/or mucous membrane with the antimicrobial composition of claim 18.

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25. A method of preventing and/or treating an affliction caused, or aggravated by, a microorganism on skin and/or a mucous membrane, the method comprising contacting the skin and/or mucous membrane with the antimicrobial composition of claim 19.

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26. A method of preventing and/or treating an affliction caused, or aggravated by, a microorganism on skin and/or a mucous membrane, the method comprising contacting the skin and/or mucous membrane with the antimicrobial composition of claim 20.

27. A method of preventing and/or treating an affliction caused, or aggravated by, a microorganism on skin and/or a mucous membrane, the method comprising contacting the skin and/or mucous membrane with the antimicrobial composition of claim 21.
- 5 28. A method of decolonizing at least a portion of the nasal cavities, anterior nares, and/or nasopharynx of a subject of microorganisms, the method comprising contacting the nasal cavities, anterior nares, and/or nasopharynx with the antimicrobial composition of claim 1 in an amount effective to kill one or more microorganisms.
- 10 29. A method of decolonizing at least a portion of the nasal cavities, anterior nares, and/or nasopharynx of a subject of microorganisms, the method comprising contacting the nasal cavities, anterior nares, and/or nasopharynx with the antimicrobial composition of claim 17 in an amount effective to kill one or more microorganisms.
- 15 30. A method of decolonizing at least a portion of the nasal cavities, anterior nares, and/or nasopharynx of a subject of microorganisms, the method comprising contacting the nasal cavities, anterior nares, and/or nasopharynx with the antimicrobial composition of claim 18 in an amount effective to kill one or more microorganisms.
- 20 31. A method of decolonizing at least a portion of the nasal cavities, anterior nares, and/or nasopharynx of a subject of microorganisms, the method comprising contacting the nasal cavities, anterior nares, and/or nasopharynx with the antimicrobial composition of claim 19 in an amount effective to kill one or more microorganisms.
- 25 32. A method of decolonizing at least a portion of the nasal cavities, anterior nares, and/or nasopharynx of a subject of microorganisms, the method comprising contacting the nasal cavities, anterior nares, and/or nasopharynx with the antimicrobial composition of claim 20 in an amount effective to kill one or more microorganisms.
- 30 33. A method of decolonizing at least a portion of the nasal cavities, anterior nares, and/or nasopharynx of a subject of microorganisms, the method comprising contacting the nasal cavities, anterior nares, and/or nasopharynx with the antimicrobial composition of claim 21 in an amount effective to kill one or more microorganisms.

34. A method of killing or inactivating microorganisms, the method comprising contacting the microorganisms with the antimicrobial composition of claim 1 in an amount effective to kill or inactivate one or more microorganisms.

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35. The method of claim 34 wherein the microorganisms comprise bacteria and the antimicrobial composition is used in an amount effective to kill one or more bacteria.

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36. The method of claim 35 wherein the bacteria comprise *Staphylococcus spp.*, *Streptococcus spp.*, *Escherichia spp.*, *Enterococcus spp.*, or *Pseudomonas spp.*

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37. The method of claim 36 wherein the bacteria comprise *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Escherichia coli*, *Pseudomonas aeruginosa*, or *Streptococcus pyogenes*.

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38. The method of claim 34 wherein the microorganisms comprise one or more viruses and the antimicrobial composition is used in an amount effective to inactivate one or more viruses.

39. The method of claim 34 wherein the microorganisms comprise one or more fungi and the antimicrobial composition is used in an amount effective to kill one or more fungi.

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40. A method of killing or inactivating microorganisms, the method comprising contacting the microorganisms with the antimicrobial composition of claim 17 in an amount effective to kill or inactivate one or more microorganisms.

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41. The method of claim 40 wherein the microorganisms comprise bacteria and the antimicrobial composition is used in an amount effective to kill one or more bacteria.

42. The method of claim 41 wherein the bacteria comprise *Staphylococcus spp.*, *Streptococcus spp.*, *Escherichia spp.*, *Enterococcus spp.*, or *Pseudomonas spp.*

43. The method of claim 42 wherein the bacteria comprise *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Escherichia coli*, *Pseudomonas aeruginosa*, or *Streptococcus pyogenes*.
- 5 44. The method of claim 40 wherein the microorganisms comprise one or more viruses and the antimicrobial composition is used in an amount effective to inactivate one or more viruses.
- 10 45. The method of claim 40 wherein the microorganisms comprise one or more fungi and the antimicrobial composition is used in an amount effective to kill one or more fungi.
- 15 46. A method of killing or inactivating microorganisms, the method comprising contacting the microorganisms with the antimicrobial composition of claim 18 in an amount effective to kill or inactivate one or more microorganisms.
- 20 47. The method of claim 46 wherein the microorganisms comprise bacteria and the antimicrobial composition is used in an amount effective to kill one or more bacteria.
- 20 48. The method of claim 47 wherein the bacteria comprise *Staphylococcus spp.*, *Streptococcus spp.*, *Escherichia spp.*, *Enterococcus spp.*, or *Pseudomonas spp.*
- 25 49. The method of claim 48 wherein the bacteria comprise *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Escherichia coli*, *Pseudomonas aeruginosa*, or *Streptococcus pyogenes*.
- 30 50. The method of claim 46 wherein the microorganisms comprise one or more viruses and the antimicrobial composition is used in an amount effective to inactivate one or more viruses.
- 30 51. The method of claim 46 wherein the microorganisms comprise one or more fungi and the antimicrobial composition is used in an amount effective to kill one or more fungi.

52. A method of killing or inactivating microorganisms, the method comprising contacting the microorganisms with the antimicrobial composition of claim 19 in an amount effective to kill or inactivate one or more microorganisms.

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53. The method of claim 52 wherein the microorganisms comprise bacteria and the antimicrobial composition is used in an amount effective to kill one or more bacteria.

54. The method of claim 53 wherein the bacteria comprise *Staphylococcus spp.*,
10 *Streptococcus spp.*, *Escherichia spp.*, *Enterococcus spp.*, or *Pseudomonas spp.*

55. The method of claim 54 wherein the bacteria comprise *Staphylococcus aureus*,
Staphylococcus epidermidis, *Escherichia coli*, *Pseudomonas aeruginosa*, or
Streptococcus pyogenes.

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56. The method of claim 52 wherein the microorganisms comprise one or more viruses and the antimicrobial composition is used in an amount effective to inactivate one or more viruses.

57. The method of claim 52 wherein the microorganisms comprise one or more fungi
20 and the antimicrobial composition is used in an amount effective to kill one or more fungi.

58. A method of killing or inactivating microorganisms, the method comprising
25 contacting the microorganisms with the antimicrobial composition of claim 20 in an amount effective to kill or inactivate one or more microorganisms.

59. The method of claim 58 wherein the microorganisms comprise bacteria and the antimicrobial composition is used in an amount effective to kill one or more bacteria.

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60. The method of claim 59 wherein the bacteria comprise *Staphylococcus spp.*,
Streptococcus spp., *Escherichia spp.*, *Enterococcus spp.*, or *Pseudomonas spp.*

61. The method of claim 60 wherein the bacteria comprise *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Escherichia coli*, *Pseudomonas aeruginosa*, or *Streptococcus pyogenes*.

5 62. The method of claim 58 wherein the microorganisms comprise one or more viruses and the antimicrobial composition is used in an amount effective to inactivate one or more viruses.

10 63. The method of claim 58 wherein the microorganisms comprise one or more fungi and the antimicrobial composition is used in an amount effective to kill one or more fungi.

15 64. A method of killing or inactivating microorganisms, the method comprising contacting the microorganisms with the antimicrobial composition of claim 21 in an amount effective to kill or inactivate one or more microorganisms.

65. The method of claim 64 wherein the microorganisms comprise bacteria and the antimicrobial composition is used in an amount effective to kill one or more bacteria.

20 66. The method of claim 65 wherein the bacteria comprise *Staphylococcus spp.*, *Streptococcus spp.*, *Escherichia spp.*, *Enterococcus spp.*, or *Pseudomonas spp.*

25 67. The method of claim 66 wherein the bacteria comprise *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Escherichia coli*, *Pseudomonas aeruginosa*, or *Streptococcus pyogenes*.

30 68. The method of claim 64 wherein the microorganisms comprise one or more viruses and the antimicrobial composition is used in an amount effective to inactivate one or more viruses.

69. The method of claim 64 wherein the microorganisms comprise one or more fungi and the antimicrobial composition is used in an amount effective to kill one or more fungi.

70. A method of providing residual antimicrobial efficacy on a surface, the method comprising contacting the surface with the composition of claim 1.
- 5 71. A method of providing residual antimicrobial efficacy on a surface, the method comprising contacting the surface with the composition of claim 17.
72. A method of providing residual antimicrobial efficacy on a surface, the method comprising contacting the surface with the composition of claim 18.
- 10 73. A method of providing residual antimicrobial efficacy on a surface, the method comprising contacting the surface with the composition of claim 19.
74. A method of providing residual antimicrobial efficacy on a surface, the method comprising contacting the surface with the composition of claim 20.
- 15 75. A method of providing residual antimicrobial efficacy on a surface, the method comprising contacting the surface with the composition of claim 21.
- 20 76. A method of preventing and/or treating a subject for a common cold and/or respiratory affliction caused by a microbial infection, the method comprising contacting the subject with the composition of claim 1 in at least a portion of the subject's respiratory system in an amount effective to kill or inactivate one or more microorganisms that cause a common cold and/or respiratory affliction.
- 25 77. A method of preventing and/or treating a subject for a common cold and/or respiratory affliction caused by a microbial infection, the method comprising contacting the subject with the composition of claim 17 in at least a portion of the subject's respiratory system in an amount effective to kill or inactivate one or more microorganisms that cause a common cold and/or respiratory affliction.
- 30 78. A method of preventing and/or treating a subject for a common cold and/or respiratory affliction caused by a microbial infection, the method comprising

contacting the subject with the composition of claim 18 in at least a portion of the subject's respiratory system in an amount effective to kill or inactivate one or more microorganisms that cause a common cold and/or respiratory affliction.

5 79. A method of preventing and/or treating a subject for a common cold and/or respiratory affliction caused by a microbial infection, the method comprising contacting the subject with the composition of claim 19 in at least a portion of the subject's respiratory system in an amount effective to kill or inactivate one or more microorganisms that cause a common cold and/or respiratory affliction.

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80. A method of preventing and/or treating a subject for a common cold and/or respiratory affliction caused by a microbial infection, the method comprising contacting the subject with the composition of claim 20 in at least a portion of the subject's respiratory system in an amount effective to kill or inactivate one or more microorganisms that cause a common cold and/or respiratory affliction.

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81. A method of preventing and/or treating a subject for a common cold and/or respiratory affliction caused by a microbial infection, the method comprising contacting the subject with the composition of claim 21 in at least a portion of the subject's respiratory system in an amount effective to kill inactivate one or more microorganisms that cause a common cold and/or respiratory affliction.

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82. A method of decolonizing at least a portion of the nasal cavities, anterior nares, and/or nasopharynx of a subject of microorganisms, the method comprising contacting the nasal cavities, anterior nares, and/or nasopharynx with an antimicrobial composition in an amount effective to kill one or more microorganisms, wherein the antimicrobial composition comprises:

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an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for

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polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof; and

5 a hydrophobic component which forms the greatest portion of the composition by weight.

83. The method of claim 82 wherein the composition further comprises an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy
10 acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

84. The method of claim 83 wherein the composition further comprises a hydrophilic
15 component.

85. A method of treating a middle ear infection in a subject, the method comprising contacting the middle ear, tympanic membrane, and/or Eustachian tube with an antimicrobial composition comprising:

20 an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less
25 than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof; and

30 an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl

carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

5 86. A method of treating a middle ear infection in a subject, the method comprising contacting the middle ear, tympanic membrane, and/or Eustachian tube with an antimicrobial composition comprising:

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof; and

a hydrophobic component which forms the greatest portion of the composition by weight.

20 87. The method of claim 86 wherein the composition further comprises an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

25 88. A method of treating chronic sinusitis in a subject, the method comprising contacting at least a portion of the respiratory system with an antimicrobial composition comprising:

30 an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less

than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

and

an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)alkyl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof;

wherein the composition comprises less than 0.50 percent by weight (C6-C18)fatty acid.

89. A method of treating chronic sinusitis in a subject, the method comprising contacting at least a portion of the respiratory system with an antimicrobial composition comprising:

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

and

a hydrophobic component which forms the greatest portion of the composition by weight.

90. The method of claim 89 wherein the composition further comprises an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy

acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

5 91. A method of treating impetigo on the skin of a subject, the method comprising contacting the affected area with an antimicrobial composition comprising:

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

and

an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

92. The method of claim 91 wherein the composition further comprises a hydrophilic component, wherein the viscosity of the composition is at least 500 cps.

93. A method of treating impetigo on the skin of a subject, the method comprising contacting the affected area with an antimicrobial composition comprising:

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less

than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

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a hydrophobic component which forms the greatest portion of the composition by weight.

10 94. The method of claim 93 wherein the composition further comprises an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

15 95. A method of treating and/or preventing an infection on the skin, mucosal tissue, and/or wound of a subject, the method comprising contacting the skin, mucosal tissue, and/or wound with an antimicrobial composition in an amount effective to kill or inactivate one or more microorganisms, wherein the antimicrobial composition

20 comprises:

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated

25 derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

30 thereof;

an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl

carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof;

a hydrophilic component; and

5 a hydrophobic component which forms the greatest portion of the composition by weight.

96. A method of treating and/or preventing an infection on the skin, mucosal tissue, and/or wound of a subject, the method comprising contacting the skin, mucosal tissue, and/or wound with an antimicrobial composition in an amount effective to kill or
10 inactivate one or more microorganisms, wherein the antimicrobial composition comprises:

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric
15 alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxyated derivative thereof, or combinations thereof, wherein the alkoxyated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or
20 combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl
25 carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof;

a surfactant; and

a hydrophobic component which forms the greatest portion of the composition by weight.

30

97. A method of treating and/or preventing an infection on the skin, mucosal tissue, and/or wound of a subject, the method comprising contacting the skin, mucosal tissue, and/or wound with an antimicrobial composition in an amount effective to kill or

inactivate one or more microorganisms, wherein the antimicrobial composition comprises:

- an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;
- and
- a hydrophobic component which forms the greatest portion of the composition by weight.

98. The method of claim 97 wherein the composition further comprises an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

99. A method of treating a burn, the method comprising contacting the burned area of a subject with an antimicrobial composition in an amount effective to kill or inactivate one or more microorganisms, wherein the antimicrobial composition comprises:

- an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers

comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

and

5 an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)alkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

10

100. A method of treating a burn, the method comprising contacting the burned area of a subject with an antimicrobial composition in an amount effective to kill or inactivate one or more microorganisms, wherein the antimicrobial composition comprises:

15 an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less
20 than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

25 and

 a hydrophobic component which forms the greatest portion of the composition by weight.

30 101. The method of claim 100 wherein the composition further comprises an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)alkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

102. A method of killing or inactivating microorganisms on the skin, mucosal tissue, and/or in a wound of a subject, the method comprising contacting the affected area with an antimicrobial composition in an amount effective to kill or inactivate one or more microorganisms, the antimicrobial composition comprising:

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

and

an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

103. The method of claim 102 wherein the composition further comprises a hydrophilic component, wherein the viscosity of the composition is at least 500 cps.

104. A method of killing or inactivating microorganisms on the skin, mucosal tissue, and/or in a wound of a subject, the method comprising contacting the affected area with an antimicrobial composition in an amount effective to kill or inactivate one or more microorganisms, the method comprising:

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated

derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

and

a hydrophobic component which forms the greatest portion of the composition by weight.

10

105. The method of claim 104 wherein the composition further comprises an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

15

106. A method of providing residual antimicrobial efficacy on the skin, mucosal tissue, and/or in a wound of a subject, the method comprising contacting the skin, mucosal tissue, and/or wound with an antimicrobial composition comprising:

20

an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

25

30

an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl

carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof; and

a surfactant and/or a hydrophilic component.

- 5 107. A method of providing residual antimicrobial efficacy on the skin, mucosal tissue, and/or in a wound of a subject, the method comprising contacting the skin, mucosal tissue, and/or wound with an antimicrobial composition comprising:
- an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxylated derivative thereof, or combinations thereof, wherein the alkoxylated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;
- an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)alkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof; and
- a hydrophobic component which forms the greatest portion of the composition by weight.

- 25 108. A method of preventing and/or treating a subject for a common cold and/or respiratory affliction caused by a microbial infection, the method comprising contacting at least a portion of the respiratory system of a subject with an antimicrobial composition in an amount effective to kill or inactivate one or more microorganisms that cause a common cold and/or respiratory affliction; wherein the antimicrobial composition comprises:
- an effective amount of an antimicrobial lipid component comprising a (C8-C12)saturated fatty acid ester of a polyhydric alcohol, a (C12-C22)unsaturated fatty
- 30

acid ester of a polyhydric alcohol, a (C8-C12)saturated fatty ether of a polyhydric alcohol, a (C12-C22)unsaturated fatty ether of a polyhydric alcohol, an alkoxyated derivative thereof, or combinations thereof, wherein the alkoxyated derivative has less than 5 moles of alkoxide per mole of polyhydric alcohol; with the proviso that for polyhydric alcohols other than sucrose, the esters comprise monoesters and the ethers comprise monoethers, and for sucrose the esters comprise monoesters, diesters, or combinations thereof, and the ethers comprise monoethers, diethers, or combinations thereof;

and

an effective amount of an enhancer component comprising an alpha-hydroxy acid, a beta-hydroxy acid, a chelating agent, a (C1-C4)alkyl carboxylic acid, a (C6-C12)aryl carboxylic acid, a (C6-C12)aralkyl carboxylic acid, a (C6-C12)alkaryl carboxylic acid, a phenolic compound, a (C1-C10)alkyl alcohol, an ether glycol, or combinations thereof.

109. A method of making an antimicrobial composition comprising an antimicrobial lipid component, an enhancer component, a hydrophobic vehicle, and a hydrophilic component, the method comprising:

dissolving the enhancer component in the hydrophilic component;

combining the hydrophobic vehicle and the hydrophilic component with the enhancer component dissolved therein with mixing to form a mixture;

optionally heating the hydrophobic vehicle to a temperature sufficient to form a pourable liquid before or after combining it with the hydrophilic component and enhancer component;

adding the antimicrobial lipid component to the mixture; and

cooling the mixture before or after adding the antimicrobial lipid component.

110. A method of making an antimicrobial composition comprising an antimicrobial lipid component, an enhancer component, and a hydrophobic vehicle, the method comprising:

combining the enhancer component and the hydrophobic vehicle with mixing to form a mixture;

optionally heating the hydrophobic vehicle to a temperature sufficient to make a pourable liquid before or after combining it with the enhancer component;
adding the antimicrobial lipid component to the mixture with mixing; and
cooling the mixture before or after adding the antimicrobial lipid component.